

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. – 11. (Cancelled)

12. (Previously Presented) A method of mirroring multiple blocks of data to multiple targets, if said multiple targets do not satisfy the amount of data to be transferred in said multiple blocks of data, comprising:

transmitting a write request for half of said multiple blocks of data to said multiple targets.

13. (Original) The method of claim 12, wherein said multiple targets comprise all targets.

14. (Original) The method of claim 12, and further comprising:
transferring to said multiple targets, half of said multiple blocks of data, if said multiple targets satisfy said request for half of said multiple blocks of data.

15. (Original) The method of claim 14, wherein said multiple targets comprise all targets.

16. (Previously Presented) The method of claim 12, and further comprising:
transmitting a new write request for half of an amount of an immediately previous write request, if said multiple targets do not satisfy the amount of data to be transferred by said immediately previous write request.

17. (Original) The method of claim 16, wherein said multiple targets comprise all targets.

18. (Original) The method of claim 12, wherein at least one of said multiple targets comprises a storage disk.

19. (Previously Presented) The method of claim 12, wherein said targets comprise systems that are compliant with the Fibre Channel protocol.

20. (Previously Presented) The method of claim 12, wherein said targets comprise systems that are compatible with the Fibre Channel protocol.

21. – 28. (Cancelled)

29. (Previously Presented) An article comprising: a storage medium having stored thereon instructions, that, when executed, result in performance of a method of mirroring multiple blocks of data to multiple targets, if said multiple targets do not satisfy the amount of data to be transferred in said multiple blocks of data, comprising:

transmitting a write request for half of said multiple blocks of data to said multiple targets.

30. (Original) The article of claim 29, wherein said storage medium has stored thereon instructions that, when executed, further result in:

said multiple targets comprising all targets.

31. (Original) The article of claim 29, wherein said storage medium has stored thereon instructions that, when executed, further result in:

transferring to said multiple targets, half of said multiple blocks of data, if said multiple targets satisfy said request for half of said multiple blocks of data.

32. (Original) The article of claim 31, wherein said storage medium has stored thereon instructions that, when executed, further result in:

said multiple targets comprising all targets.

33. (Previously Presented) The article of claim 29, wherein said storage medium has stored thereon instructions that, when executed, further result in:

transmitting a new write request for half of an amount of an immediately previous write request, if said multiple targets do not satisfy the amount of data to be transferred by said immediately previous write request.

34. (Original) The article of claim 33, wherein said storage medium has stored thereon instructions that, when executed, further result in:

said multiple targets comprising all targets.

35. (Previously Presented) A method of mirroring multiple blocks of data to multiple targets, if said multiple targets do not satisfy the amount of data to be transferred by said multiple blocks of data, comprising:

transmitting a write request for a subset of said multiple blocks of data to said multiple targets.

36. (Original) The method of claim 35, wherein said multiple targets comprise all targets.

37. (Original) The method of claim 35, and further comprising:
transferring to said multiple targets, said subset of said multiple blocks of data, if said multiple targets satisfy said request for said subset of said multiple blocks of data.

38. (Original) The method of claim 37, wherein said multiple targets comprise all targets.

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39. (Previously Presented) The method of claim 35, and further comprising:
transmitting a new write request for a further subset of an amount of an
immediately previous write request, if said multiple targets do not satisfy the amount of
data to be transferred by said immediately previous write request.

40. (Original) The method of claim 39, wherein said multiple targets comprise all
targets.

41. (Original) The method of claim 35, wherein at least one of said multiple
targets comprises a storage disk.

42. (Previously Presented) The method of claim 35, wherein said targets
comprise systems that are compliant with the Fibre Channel protocol.

43. (Previously Presented) The method of claim 35, wherein said targets
comprise systems that are compatible with the Fibre Channel protocol.

44. (Previously Presented) An article comprising: a storage medium having
stored thereon instructions, that, when executed, result in performance of a method of
mirroring multiple blocks of data to multiple targets, if said multiple targets do not satisfy
the amount of data to be transferred in said multiple blocks of data, comprising:
transmitting a write request for a subset of said multiple blocks of data to said
multiple targets.

45. (Original) The article of claim 44, wherein said storage medium has stored
thereon instructions that, when executed, further result in:
said multiple targets comprising all targets.

46. (Original) The article of claim 44, wherein said storage medium has stored
thereon instructions that, when executed, further result in:

transferring to said multiple targets, said subset of said multiple blocks of data, if said multiple targets satisfy said request for said subset of said multiple blocks of data.

47. (Original) The article of claim 46, wherein said storage medium has stored thereon instructions that, when executed, further result in:

 said multiple targets comprising all targets.

48. (Previously Presented) The article of claim 44, wherein said storage medium has stored thereon instructions that, when executed, further result in:

 transmitting a new write request for a subset of an amount of an immediately previous write request, if said multiple targets do not satisfy the amount of data to be transferred by said immediately previous write request.

49. (Original) The article of claim 48, wherein said storage medium has stored thereon instructions that, when executed, further result in:

 said multiple targets comprising all targets.

50. – 75. (Cancelled)

76. (Previously Presented) A switched fabric comprising:

 a first switch; and

 a second switch coupled to said first switch, said second switch including:

 at least a port;

 a mirroring device capable of mirroring multiple blocks of data to multiple targets, if said multiple targets do not satisfy the amount of data to be transferred in multiple blocks of data;

 logic for signal information to pass at least between said port and said mirroring device;

 said mirroring device being adapted to transmit a write request for a subset of said multiple blocks of data to said multiple targets.

77. (Original) The switched fabric of claim 76, wherein said multiple targets comprise all targets.

78. (Original) The switched fabric of claim 76, wherein said mirroring device is further adapted to transfer to said multiple targets, said subset of said multiple blocks of data, if said multiple targets satisfy said request for said subset of said multiple blocks of data.

79. (Original) The switched fabric of claim 78, wherein said multiple targets comprise all targets.

80. (Previously Presented) The switched fabric of claim 76, wherein said mirroring device is further adapted to transmit a new write request for a further subset of an amount of an immediately previous write request, if said multiple targets do not satisfy the amount of data to be transferred by said immediately previous write request.

81. (Original) The switched fabric of claim 76, wherein said multiple targets comprises all targets.

82. (Original) The switched fabric of claim 76, wherein at least one of said multiple targets comprises a storage disk.

83. (Previously Presented) The switched fabric of claim 76, wherein said targets comprise systems that are compliant with the Fibre Channel protocol.

84. – 91. (Cancelled)

92. (Previously Presented) A network comprising:
a host;

a physical storage unit;
a first switch; and
a second switch coupled to said first switch and forming a switched fabric, said first switch and said second switch coupled to said host and said physical storage unit, said first switch including:
at least a port;
a mirroring device capable of mirroring multiple blocks of data to multiple targets, if said multiple targets do not satisfy the amount of data to be transferred in said multiple blocks of data;
logic for signal information to pass at least between said port and said mirroring device;
said mirroring device being adapted to transmit a write request for a subset of said multiple blocks of data to said multiple targets.

93. (Original) The network of claim 92, wherein said multiple targets comprise all targets.

94. (Original) The network of claim 92, wherein said mirroring device is further adapted to transfer to said multiple targets, said subset of said multiple blocks of data, if said multiple targets satisfy said request for said subset of said multiple blocks of data.

95. (Original) The network of claim 94, wherein said multiple targets comprise all targets.

96. (Previously Presented) The network of claim 92, wherein said mirroring device is further adapted to transmit a new write request for a further subset of an amount of an immediately previous write request, if said multiple targets do not satisfy the amount of data to be transferred by said immediately previous write request.

97. (Original) The network of claim 92, wherein said multiple targets comprise all targets.

98. (Original) The network of claim 92, wherein at least one of said multiple targets comprises a storage disk.

99. (Previously Presented) The network of claim 92, wherein said targets comprise systems that are compliant with the Fibre Channel protocol.

100. (Previously Presented) The apparatus of claim 92, wherein said targets comprise systems that are compatible with the Fibre Channel protocol.

101. (Previously Presented) A method of mirroring multiple blocks of data to multiple targets, comprising:

receiving a write request for a selected number of data blocks directed to a single target;

issuing write requests for said selected number of data blocks to each of the multiple targets;

receiving replies indicating an allowable number of data blocks from each of the multiple targets;

if each of the replies indicates an allowable number of data blocks sufficient to accommodate the write request:

providing a reply indicating a sufficient number of data blocks;

receiving said selected number of data blocks; and

providing each of the received data blocks to each of the multiple targets;

if any of the replies indicates an allowable number of data blocks not sufficient to accommodate the write request:

transmitting a write request for a portion of the selected number of data blocks to each of the multipled targets;

receiving replies indicating an allowable number of data blocks from each of the multiple targets; and

if each of the replies indicates an allowable number of data blocks sufficient to accommodate the write request:

providing a reply indicating a sufficient number of data blocks;

receiving said selected number of data blocks; and

providing each of the received data blocks to each of the multiple targets;

determining if the received write request has been completed;

if the received write request has been completed, providing a write command complete; and

if the received write request has not been completed, returning to the most recently performed step of transmitting a write request.

102. (Currently Amended) The method of claim 101, further comprising:

if any of the replies to said write request for a portion of the selected number of data blocks indicates an allowable number of data blocks not sufficient to accommodate the write request for a portion of the selected number of data blocks:

transmitting a write request for a smaller portion of the selected number of data blocks than the most recently transmitted write request;

receiving replies indicating an allowable number of data blocks from each of the multiple targets;

if each of the replies indicates an allowable number of data blocks sufficient to accommodate the smaller portion write request:

providing a reply indicating a number of data blocks;

receiving said smaller portion of said selected number of data blocks; and

providing each of the received data blocks to each of the multiple targets; and

if each-any of the replies indicates an allowable number of data blocks not sufficient to accommodate the smaller portion write request, reducing the value of the smaller portion so that an even smaller number of data blocks is being utilized and returning to the step of transmitting a write request for a smaller portion using the even smaller value.

103. (Previously Presented) The method of claim 102 further comprising:
transmitting an abort write request to each of the multiple targets before transmitting a write request for a portion of the selected number of data blocks which is smaller than the immediately previous write request.

104. (Previously Presented) The method of claim 102, where said portion is one half and said smaller portion is one half of the previous portion.

105. (Previously Presented) The method of claim 101, further comprising:
transmitting an abort write request to each of the multiple targets before transmitting the write request for a portion of the selected number of data blocks.

106. (Previously Presented) The method of claim 101, wherein said portion is one half.

107. (Previously Presented) A switched fabric comprising:
a first switch; and
a second switch coupled to said first switch, said second switch including:
at least a port;
a mirroring device capable of mirroring multiple blocks of data to multiple targets; and
logic for signal information to pass at least between said port and said mirroring device;
said mirroring device being adapted to:

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receive a write request for a selected number of data blocks directed to a single target;

issue write requests for said selected number of data blocks to each of the multiple targets;

receive replies indicating an allowable number of data blocks from each of the multiple targets;

if each of the replies indicates an allowable number of data blocks sufficient to accommodate the write request:

provide a reply indicating a sufficient number of data blocks;

receive said selected number of data blocks; and

provide each of the received data blocks to each of the multiple targets; and

if any of the replies indicates an allowable number of data blocks not sufficient to accommodate the write request:

transmit a write request for a portion of the selected number of data blocks to each of the multiplied targets;

receive replies indicating an allowable number of data blocks from each of the multiple targets;

if each of the replies indicates an allowable number of data blocks sufficient to accommodate the write request:

provide a reply indicating a number of data blocks;

receive said portion of said selected number of data blocks; and

provide each of the received data blocks to each of the multiple targets;

determine if the received write request has been completed;

if the received write request has been completed, provide a write command complete; and

if the received write request has not been completed, return to the most recently performed operation of transmitting a write request.

108. (Currently Amended) The switched fabric of claim 107, wherein said mirroring device is further adapted to:

if any of the replies to said write request for a portion of the selected number of data blocks indicates an allowable number of data blocks not sufficient to accommodate the write request for a portion of the selected number of data blocks:

transmit a write request for a smaller portion of the selected number of data blocks than the most previously transmitted write request;

receive replies indicating an allowable number of data blocks from each of the multiple targets;

if each of the replies indicates an allowable number of data blocks sufficient to accommodate the write request:

provide a reply indicating a number of data blocks;

receive said smaller portion of said selected number of data blocks;

and

provide each of the received data blocks to each of the multiple targets; and

if each-any of the replies indicates an allowable number of data blocks not sufficient to accommodate the smaller portion write request, reduce the value of the smaller portion so that an even smaller number of data blocks is being utilized and return to the operation of transmitting a write request for a smaller portion using the even smaller value.

109. (Previously Presented) The switched fabric of claim 108, wherein said mirroring device is further adapted to:

transmit an abort write request to each of the multiple targets before transmitting a write request for a portion of the selected number of data blocks which is smaller than the immediately previous write request.

110. (Previously Presented) The switched fabric of claim 108, where said portion is one half and said smaller portion is one half of the previous portion.

111. (Previously Presented) The switched fabric of claim 107, wherein said mirroring device is further adapted to:

transmitting an abort write request to each of the multiple targets before transmitting the write request for a portion of the selected number of data blocks.

112. (Previously Presented) The switched fabric of claim 107, wherein said portion is one half.

113. (Previously Presented) A network comprising:

a host;

a physical storage unit;

a first switch; and

a second switch coupled to said first switch and forming a switched fabric, said first switch and said second switch coupled to said host and said physical storage unit,

said first switch including:

at least a port;

a mirroring device capable of mirroring multiple blocks of data to multiple targets;

logic for signal information to pass at least between said port and said mirroring device;

said mirroring device being adapted to:

receive a write request for a selected number of data blocks directed to a single target:

issue write requests for said selected number of data blocks to each of the multiple targets;

receive replies indicating an allowable number of data blocks from each of the multiple targets;

if each of the replies indicates an allowable number of data blocks sufficient to accommodate the write request:

provide a reply indicating a sufficient number of data blocks;

receive said selected number of data blocks; and

provide each of the received data blocks to each of the multiple targets; and

if any of the replies indicates an allowable number of data blocks not sufficient to accommodate the write request:

transmit a write request for a portion of the selected number of data blocks to each of the multiplied targets;

receive replies indicating an allowable number of data blocks from each of the multiple targets;

if each of the replies indicates an allowable number of data blocks sufficient to accommodate the write request:

provide a reply indicating a sufficient number of data blocks;

receive said selected number of data blocks; and

provide each of the received data blocks to each of the multiple targets;

determine if the received write request has been completed;

if the received write request has been completed, provide a write command complete; and

if the received write request has not been completed, return to the most recently performed operation of transmitting a write request.

114. (Currently Amended) The network of claim 113, wherein said mirroring device is further adapted to:

if any of the replies to said write request for a portion of the selected number of data blocks indicates an allowable number of data blocks not sufficient to accommodate the write request for a portion of the selected number of data blocks:

transmit a write request for a smaller portion of the selected number of data blocks than the most recently transmitted write request;

receive replies indicating an allowable number of data blocks from each of the multiple targets;

if each of the replies indicates an allowable number of data blocks sufficient to accommodate the write request;

provide a reply indicating a number of data blocks;

receive said smaller portion of selected number of data blocks; and

provide each of the received data blocks to each of the multiple targets; and

if each~~any~~ of the replies indicates an allowable number of data blocks not sufficient to accommodate the smaller portion write request, reduce the value of the smaller portion so that an even smaller number of data blocks is being utilized and return to the operation of transmitting a write request for a smaller portion using the even smaller value.

115. (Previously Presented) The network of claim 114, wherein said mirroring device is further adapted to:

transmit an abort write request to each of the multiple targets before transmitting a write request for a portion of the selected number of data blocks which is smaller than the immediately previous write request.

116. (Previously Presented) The network of claim 113, where said portion is one half and said smaller portion is one half of the previous portion.

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117. (Previously Presented) The network of claim 113, wherein said mirroring device is further adapted to:

transmit an abort write request to each of the multiple targets before transmitting the write request for a portion of the selected number of data blocks.

118. (Previously Presented) The network of claim 113, wherein said portion is one half.